

**SIGN 140 • Management of primary cutaneous  
squamous cell carcinoma**

*Quick Reference Guide*

*June 2014*

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ISBN 978 1 909103 27 6

First published June 2014

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## IDENTIFYING HIGH-RISK TUMOURS

- ✓ All clinicians should endeavour to identify high-risk tumours at the earliest opportunity, and when referring patients with suspected SCC, should include details of the high-risk clinical features: immunosuppression, tumour diameter and site.

If a surgery or biopsy specimen is taken, clinicians should use the national Histopathology Request Form (see Annex 2 of the full guideline) that details high-risk clinical features.

### Clinical features

**R** **Immunosuppression should be considered a high-risk clinical feature in patients with primary squamous cell carcinoma.**

- ✓ Patients who are immunosuppressed are more likely to develop multiple primary SCCs and there is increased risk for an individual SCC to behave aggressively. Healthcare professionals treating immunosuppressed patients need to be alert to the possibility of cutaneous malignancies and to exercise meticulous care at every stage of their SCC management.

Immunosuppression, when present, should be indicated as part of the histopathology request form for skin biopsies from patients with suspected SCC.

**R** **The ear should be considered the highest risk tumour site in patients with primary squamous cell carcinoma.**

- ✓ Nose, cutaneous lip, eyelid and scalp tumour sites should be considered as high-risk features in primary squamous cell carcinoma.

Squamous cell carcinoma arising within a site of skin trauma, eg burns, scar tissue, or a radiotherapy field, or within a site of pre-existing skin disease, eg venous leg ulceration or Bowen's disease, should be considered as high-risk SCC.

The following features should prompt early referral:

- high levels of cumulative psoralen plus ultraviolet A photochemotherapy
- rapid tumour growth
- field cancerisation
- poorly defined clinical margins
- pain/dysaesthesia.

**R** **Clinically determined horizontal tumour diameter of >20 mm should be considered a high-risk feature in patients with primary squamous cell carcinoma.**

- ✓ Healthcare professionals should be aware that metastases may occur in tumours  $\leq 20$  mm in diameter.

### Imaging Features

- ✓ Imaging to determine the extent of a primary tumour may be appropriate in selected patients as determined by the MDT. This would include patients who have symptoms suggestive of perineural invasion or clinical evidence of bony erosion or at sites considered to be very high risk, for example arising on or around the ear. Where undertaken, regional lymph nodes may also be imaged.

## Pathological features

- ✓ Tumour depth (in mm) and anatomical level should be reported as components of the core minimum dataset for primary squamous cell carcinoma.
  - The tumour depth should be measured in the same way as Breslow depth is measured for melanomas, ie from epidermal granular layer or ulcer base to deepest contiguous tumour cell. For tumours with a papillomatous surface architecture, measurements should be taken from the bottom of epidermal troughs, rather than the tip of peaks, to avoid an overestimation of tumour depth. The measurement should be recorded to the nearest 0.1 mm. The use of the term 'Breslow depth' should be avoided in pathology reports for SCC and reserved for melanoma.
  - Pathology reports should state clearly whether the tumour is limited to the dermis or invades subcutaneous fat. If additional structures such as bone, skeletal muscle or cartilage are involved, this should be stated in the pathology report. The use of the term 'Clark level' should be avoided in pathology reports for SCC.
- R **Tumour depth >4 mm should be considered a high-risk feature in patients with primary squamous cell carcinoma with depth >6 mm indicating a very high-risk tumour.**

**Tumour extension beyond the dermis into or through subcutaneous fat should be considered a high-risk feature in patients with primary squamous cell carcinoma.**

**Tumour horizontal diameter of >20 mm should be considered a high-risk feature in patients with primary squamous cell carcinoma.**
- ✓ The maximum diameter (to the nearest mm) of the macroscopic specimen should be reported as an essential component of the core minimum dataset for primary squamous cell carcinoma.
- R **Perineural invasion should be considered a high-risk feature in patients with primary squamous cell carcinoma.**
- ✓ Presence or absence of perineural invasion should be reported as a component of the core minimum dataset for primary squamous cell carcinoma. Reporting of extent of perineural invasion and the size of the largest nerve branch involved is desirable.

Lymphovascular invasion should be considered a high-risk feature in patients with primary squamous cell carcinoma.

Presence or absence of lymphovascular invasion should be reported as a component of the core minimum dataset for primary squamous cell carcinoma.
- R **Desmoplastic subtype should be considered a high-risk feature in patients with primary squamous cell carcinoma.**
- ✓ To categorise an SCC as being of desmoplastic subtype, at least one third of the tumour should show the desmoplastic phenotype, ie strands and nests of tumour cells surrounded by a prominent fibrous stromal response.

Tumour subtype should be reported as part of the core minimum dataset for primary squamous cell carcinoma.

- ✓ Consideration should be given to treating the following tumour subtypes as high-risk variants of primary squamous cell carcinoma:
  - adenosquamous
  - spindle cell carcinoma
  - pseudoangiosarcomatous
  - acantholytic.

Differentiation status should be reported as part of the core minimum dataset for primary squamous cell carcinoma.

In line with the Royal College of Pathologists dataset, a three-item system should be used when reporting tumour differentiation in primary squamous cell carcinoma:

- well differentiated
- moderately differentiated
- poorly differentiated.

A combination of the following morphological features should be used in the assessment of differentiation:

- degree of keratinisation
- presence/absence of intercellular bridges
- degree of nuclear pleomorphism
- number and nature of mitoses.

By convention, tumour grade is assessed on the most poorly differentiated area in the tumour.

## **R** Poorly-differentiated tumour status should be considered a high-risk feature in patients with primary squamous cell carcinoma.

- ✓ Where the tumour is present at the margin (the margin is involved) the case should be referred for discussion at the skin cancer MDT.

Where the tumour margin is close (<1 mm) to deep or peripheral excision margins and there are other high-risk features present, cases should be discussed at the skin cancer MDT for consideration of re-excision or radiotherapy.

The recommendation from the MDT will vary according to the site, size and number of high-risk features present. For many high-risk SCCs, an apparent pathological clearance margin of 1 mm would be considered insufficient. For some very high-risk SCCs, the recommendation will be for a clinical margin of 6-10 mm.

Where the apparent clearance margin is close (<1 mm) to deep or peripheral excision margins in low-risk tumours further excision may not be required.

The nearest peripheral and deep excisional margin should be measured to the nearest 0.1 mm and should be reported as a component of the core minimum dataset for primary squamous cell carcinoma. For orientated excisions, it is desirable to comment on which peripheral margin(s) is/are involved, or are closest to the tumour edge.

## Sentinel lymph node biopsy

- ✓ For patients with SCC, sentinel lymph node biopsy should be conducted as part of a clinical trial.

## REFERRAL TO THE MULTIDISCIPLINARY TEAM

**R** Where any of the following high-risk features are present, patients with primary SCC should be discussed at a skin cancer multidisciplinary team meeting:

- SCC arising on the ear
- tumour diameter >20 mm
- tumour thickness >4 mm
- tumour extension beyond dermis into or through subcutaneous fat
- perineural invasion
- poorly differentiated
- desmoplastic subtype
- immunosuppression

- ✓ recurrent SCC
- established or suspected metastatic SCC
- nose, external lip, eyelid and scalp tumour site
- association with special clinical situations
- adenosquamous histological subtype
- spindle cell histological subtype
- pseudoangiosarcomatous histological subtype
- acantholytic histological subtype
- lymphovascular invasion
- tumour excision margins involved at deep or peripheral margins.

MDT discussion is desirable where:

- a tumour is at a surgically challenging site
- the referring clinician requests discussion due to specific clinical management issues, such as cognitive impairment or significant medical comorbidities.

All SCC including low risk SCC should be reported on a minimum dataset (*see Annex 2 of the full guideline*) which allows all high-risk SCCs to be fast tracked to the MDT.

Data on all SCC should be subject to clinical audit and sent to the Cancer Registry.

## THERAPEUTIC INTERVENTIONS

### Surgical techniques

- ✓ Treatment choices should be discussed with patients taking account of the risks and benefits in functional and aesthetic outcomes balanced against clinical outcomes.

The aim of surgery for squamous cell carcinoma should be complete histological clearance at peripheral and deep margins. To achieve adequate deep clearance, the surgeon should excise at the anatomical plane deep to the clinically apparent level of tumour invasion. This anatomical plane will vary according to tumour site.

- R** For high-risk tumours a clinical peripheral margin of 6 mm or greater is indicated, where surgically achievable and clinically appropriate.

**For low-risk tumours a clinical peripheral margin of 4 mm or greater is indicated where surgically achievable and clinically appropriate.**

- ✓ An adequate diagnostic biopsy (incisional ellipse or wedge) can be helpful for planning the most appropriate treatment.

When clinical clearance is uncertain, a delayed reconstruction pending the results of paraffin wax histology may be prudent.

- R** Mohs micrographic surgery should be considered at the multidisciplinary team meeting, for selected patients with high-risk tumours where tissue preservation or margin control is challenging, and on an individual case basis for patients with any tumour at a critical anatomical site.

- ✓ Use of conventional frozen section histology in high-risk SCC is not advised.

### Destructive techniques

- R** Curettage and cautery can be considered for patients with low-risk SCCs, if healthcare professionals have had appropriate training with a blunt curette.

- ✓ Curettage and cautery is not suitable for high-risk SCC and should not be used where there are any high-risk clinical features.

If the dermis is breached during curettage then the procedure should be converted to formal excision.

If the pathology report indicates any high-risk feature the patient should be referred to a skin cancer MDT for consideration of further treatment, since histological margins cannot be assessed.

- R** Photodynamic therapy should not be used for treatment of primary squamous cell carcinoma.

### Chemotherapy

- ✓ Systemic chemotherapy for the management of patients with primary cutaneous SCC should not be used outside of a clinical trial.

Systemic chemotherapy may be appropriate for patients with metastatic SCC.

## Radiotherapy

- R** Primary radiotherapy should be considered for individual patients where surgical excision would be extremely challenging or difficult to perform or would be likely to result in an unacceptable functional or aesthetic outcome.
- ✓ Radiotherapy should be delivered by a clinical oncologist with a special interest in the management of skin cancer including SCC.
- R** Adjuvant radiotherapy should be considered for patients with a high risk of local recurrence or with close or involved margins where further surgery may be associated with increased risk of complications including functional or aesthetic morbidity.

## Reduction of immunosuppression

- ✓ In organ transplant recipients with high-risk SCC, particularly those with multiple tumours or recurrent disease, minimisation or substitution of immunosuppression should be considered at a skin cancer MDT and discussed with the patient's transplant physician where appropriate.

## Systemic retinoids

- R** Selected patients who have developed multiple SCCs following renal transplantation should be considered for low-dose acitretin treatment (10-30 mg/day) for secondary prevention.
- R** Healthcare professionals should be aware that adverse effects are common, are dose related and may lead to dose reduction or discontinuation of treatment.

## FOLLOW UP

- R** Patients with SCC with any high-risk features should be offered follow-up appointments every three to six months for 24 months following treatment. One further appointment at three years may be appropriate depending on the clinical risk.
- ✓ Patients treated for low-risk SCC should be offered a review appointment to check histopathology (if not previously assessed), conduct skin surveillance and facilitate patient education in self examination and skin cancer prevention, if not previously undertaken.

Patients who are immunosuppressed and those who are developing multiple SCC should be offered long-term follow up. Advice on sensible photoprotection measures and self-skin examination should be offered to all patients at high risk of recurrence.

Ongoing follow up may be undertaken by an appropriately trained general practitioner with a specialist interest in dermatology or by a clinical nurse specialist. This is an opportunity to detect further primary skin cancers.

The psychological impact of skin cancer should be considered at follow up and patients referred for psychological support as appropriate.



## SOURCES OF FURTHER INFORMATION

### **British Association of Dermatologists**

Willan House, 4 Fitzroy Square, London W1T 5HQ

Tel: 020 7383 0266

[www.bad.org.uk](http://www.bad.org.uk) • Email: [admin@bad.org.uk](mailto:admin@bad.org.uk)

### **British Skin Foundation**

4 Fitzroy Square, London W1T 5HQ

Tel: 020 7391 6341

[www.britishskinfoundation.org.uk](http://www.britishskinfoundation.org.uk)

### **Cancer Research UK**

Angel Building, 407 St John Street, London EC1V 4AD

Tel: 0300 123 1022

[www.cancerresearchuk.org](http://www.cancerresearchuk.org)

### **Cancer Support Scotland**

The Calman Centre, 75 Shelly Road, Glasgow G12 0ZE

Freephone: 0800 652 4531 • Tel: 0141 337 8199

[www.cancersupportscotland.org](http://www.cancersupportscotland.org)

### **Changing Faces Scotland**

Tel: 0845 4500 640 (Monday to Thursday, 8.30am to 3.00pm)

Email: [scotland@changingfaces.org.uk](mailto:scotland@changingfaces.org.uk)

### **Macmillan Cancer Relief**

89 Albert Embankment, London SE1 7UQ

Tel: 0808 808 0000

[www.macmillan.org.uk](http://www.macmillan.org.uk)

### **Maggie's Cancer Caring Centres Scotland**

The Gatehouse, 10 Dumbarton Road, Glasgow G11 6PA

Tel: 0300 123 1801

[www.maggiescentres.org](http://www.maggiescentres.org) • Email: [enquiries@maggiescentres.org](mailto:enquiries@maggiescentres.org)

### **Marie Curie Cancer Care Scotland**

14 Links Place, Edinburgh EH6 7EB

Tel: 0800 716 146

[www.mariecurie.org.uk](http://www.mariecurie.org.uk)

### **MASScot (Melanoma Action and Support Scotland)**

17 Cairnhill Road, Bearsden, East Dunbartonshire G611AU

Tel: 0773 823 1260

[www.masscot.org.uk](http://www.masscot.org.uk) • Email: [leigh@masscot.org.uk](mailto:leigh@masscot.org.uk) / [info@masscot.org.uk](mailto:info@masscot.org.uk)

This Quick Reference Guide provides a summary of the main recommendations in **SIGN 140 Management of primary cutaneous squamous cell carcinoma**.

Recommendations are indicated by an **R**. The wording used in the recommendation denotes the certainty with which it is made.

Good practice points ✓ are provided where the guideline development group wishes to highlight specific aspects of accepted clinical practice.

Details of the evidence supporting these recommendations can be found in the full guideline, available on the SIGN website: [www.sign.ac.uk](http://www.sign.ac.uk).

This Quick Reference Guide is also available as part of the SIGN Guidelines app.

